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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,404

05/24/2007

Wolfgang Ehrfeld

100717-689 WCG

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06/28/2010

GERSTENZANG, WILLIAM C.

NORRIS MCLAUGHLIN & MARCUS, PA

875 THIRD AVE, 8TH FLOOR

NEW YORK, NY 10022

EXAMINER

SORKIN, DAVID L

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

06/28/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,404	Applicant(s) EHRFELD ET AL.	
	Examiner DAVID L. SORKIN	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claims 1-12, drawn to a micromixer.

Group II, claim 13, drawn to preparation of particular substances.

2. The groups of inventions listed above do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The shared features are known in the art as evidenced by the X references in the search report, and art therefore not "special technical features".

3. During a telephone conversation with William C. Gerstenzang on 17 June 2010 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-12. Affirmation of this election must be made by applicant in replying to this Office action. Claim 13 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Information Disclosure Statement

5. The foreign reference cited in the July 2006 IDS are not present in the file and have not been considered. Also, JP 07-504847 for the June 2010 IDS is not in the file, but has been viewed electronically by the examiner and considered.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is lack of antecedent basis for "the non-return valve". Perhaps claim 5 should depend from claim 2.

8. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "according the invention" is vague because it is unclear what aspects of the invention(s) are required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-4, 6-9, 11 and 12 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Schmitkons et al. (US 5,372,283). Regarding claims 1 and 8, Schmitkons discloses a mixer having a first channel (116) and a second channel (90,146) which open in flat entry gaps into a mixing and reaction zone (136 or a portion thereof) and leave the mixing and reaction zone via an outlet channel (a downstream portion of 121, to 25), characterized in that a reflux barrier (122) is arranged between the mixing and reaction zone and at least one channel (116). It is not expressly stated that the mixer is a "micromixer"; however, as seen in the "enlarged" view of Fig. 1A the gap is extremely small, and goes to zero as the gap is closed. Also, it would have been obvious to one of ordinary skill in the art to have selected a size based upon the amount of material desired. Regarding claim 2, the barrier is a non-return valve (122). Regarding claim 3, the prestress of the non-return valve is provided by mechanical means (110). Regarding claim 4, the non-return valve is hydraulically drivable (see Fig. 1). Claim 6 discusses an intended cleaning operation, but does not positively recite a further structural limitation. Regarding claim 7, the gaps are narrow annular gaps (see Fig. 1). Regarding claim 9, the outlet channel has a smooth geometry (see Fig. 1) and widens due to the tapering of 122. Regarding claim 11, the width of the inlet gaps is controlled by hydraulic means (the flow of fluid; see Fig. 1). Regarding claim 12, in the embodiment of Fig. 3, two valves are arranged in a common housing.

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12. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitkons et al. (US 5,372,283) in view of Nickerson et al. (US 4,051,769). The barrier of Schmitkons, discussed above, is a spring biased check valve rather than a membrane. Nickerson is cited as evidence of the recognition in the art that a membrane is an alternative to a spring biased check valve (see col. 4, lines 30-36). It would have been obvious to one of ordinary skill in the art to have substituted a membrane for the spring biased check valve of Schmitkons based upon these elements being art recognized alternatives as evidenced by Nickerson col. 4 lines 30-36.

13. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmitkons et al. (US 5,372,283) in view of Stuart (2004/0008572). Schmitkons, discussed above, does not disclose a feed for an envelope stream. Stuart teaches a feed for and envelope stream (see embodiment of Fig. 12, [0066]). It would have been obvious to one of ordinary skill in the art to have provided a feed for an envelope stream to mixer an additional component as taught by Stuart at [0066].

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID L. SORKIN whose telephone number is (571)272-1148. The examiner can normally be reached on Mon.-Fri. 7:30AM-4:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Walter D. Griffin can be reached on 571-272-1447. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/DAVID L. SORKIN/
Primary Examiner, Art Unit 1797